

<http://www.mathtv.com>

MathTV officers the following videos:

**Basic Math**: Whole Numbers, Fractions, Mixed Numbers, Decimals, Ratios, Proportions, and Percent

**Algebra:**

Properties of Numbers Commutative Properties, Associate Property, Distributive Property

Positive and Negative Numbers Absolute Value, Opposites, Reciprocals, Adding, Subtracting, Multiplying, Dividing, Order of Operation

Simplifying Expressions With Numbers Only, With Variables, With Radicals, The Value of An Expression, With Absolute Value

Linear Equations in 1 Variable Addition Property, Multiplication Property, Both Properties, With Parentheses, With Fractions, With Decimals, With Absolute Value and Special Cases

Linear Equations in 2 Variables Straight Lines Ordered Pairs and Solutions, Graphing Lines, The Slope of a Line, The Equation of a Line

Functions Domain and Range, Function Notation, Algebra with Functions, Composition, Inverse Functions

Exponents Definitions and Properties, Multiplication with Exponents, Division with Exponents

Polynomials - Definitions and Vocabulary, Operations with Monomials, Addition and Subtraction of Polynomials, Multiplication with Polynomials, Special Products, Dividing a Polynomial by a Monomial

Scientific Notation

Factoring Greatest Common Factor, Grouping, Trinomials with a=1, More Trinomials, Difference of Two Squares, Perfect Square Trinomials, Sum and Difference of Two cubes

Rational Expressions Reducing, Multiply and Divide, Add and Subtract, Complex Fractions, Equations Containing, Graphing Rational Functions, Synthetic Division

Roots and Radicals Definitions and Properties, Simplifying, Adding and Subtracting, Multiplying, Dividing (Rationalizing the Denominator)

Quadratic Equations Factoring, Square Root Property, Completing the Square, Quadratic Formula, Quadratic in Form

Formulas

Inequalities Linear, One Variable, Quadratic, One Variable, With Absolute Value

Word Problems Number Problems, Geometry Problems, Coin Problems, Age Problems, Distance, Rate and Time

Logarithms Exponential Functions and the Inverse of a Function, Logarithms are Exponents, Properties of Logarithms, Common Logarithms and Natural Logarithms, Equations Containing Logarithms, Exponential Equations and Change of Base

Systems of Equations Solve by Graphing, Addition Method, Substitution Method, Matrix method, Applications, Introduction to Determinants, Cramer’s Rule

Graphing Lines, Parabolas, Circle, Ellipses and Hyperbolas, Equations with Radicals, Equations with Rational Expressions, Logarithmic and Exponential Functions

Sequences and Series Sequences, Series, Arithmetic Sequences, Geometric Sequences, binomial Expansion

Variation

**Geometry**

Angles, Parallel Lines, Classification of Triangles, Congruent Triangles, Parallelograms, Similar Figures and Proportions, The Pythagorean Theorem, Right Triangle Trigonometry, Solving Right Triangles, Area and Perimeter

**Trigonometry**

Trigonometric Functions Angles, Degrees, and Special Triangles, The Rectangular coordinate System, Definition 1: Trigonometric Functions, Introduction to Identities, More on identities

Right Triangle Trigonometry Definition II : Right Triangle Trigonometry, Calculators and Trigonometric Functions of an Acute Angle, Solving Right Triangles, Applications, Vectors: A Geometric Approach

Radian Measure Reference Angle, Radians and Degrees, Definition III: Circular Functions, Arc Length and Area of a Sector, Velocities

Graphing and Inverse Functions Basic Graphs, Amplitude and Period, Phase Shift, Finding an Equation from its Graph, Graphing Combinations of Functions, Inverse Trigonometric Functions

Identities and Formulas Identities and formulas, Sum and Difference Formulas, Double-Angle Formulas, Half-Angle Formulas, Additional Identities

Equations Solving Trigonometric Equations, More on Trigonometric Equations, Trigonometric Equations Involving Multiple Angles, Parametric Equations and Further Graphing

Triangles The Law of Sines, The Ambiguous Case, The Law of Cosines, The Area of a Triangle

Complex Numbers and Polar Coordinates Complex Numbers, Trigonometric Form for Complex Numbers, Products and Quotients in Trigonometric Form, Products and Quotients in Trigonometric Form, Polar Coordinates, Equations in Polar Coordinates and Their Graphs

**Calculus**